



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

EPA-R04-OAR-2021-0428; [FRL-9374-01-R4]

Finding of Failure to Attain the 2010 Sulfur Dioxide Standard; Tennessee; Sullivan County Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to determine that the Sullivan County, Tennessee sulfur dioxide (SO₂) nonattainment area failed to attain the 2010 1-hour SO₂ primary National Ambient Air Quality Standard (NAAQS or standard) by the applicable attainment date of October 4, 2018, based upon a weight of evidence analysis of available quality-assured and certified SO₂ ambient air monitoring data and SO₂ emissions data from January 2015 through December 2017. If EPA finalizes this determination as proposed, the State of Tennessee will be required to submit revisions to the Tennessee State Implementation Plan (SIP) that, among other elements, provide for expeditious attainment of the 2010 SO₂ standard.

DATES: Comments must be received on or before **[Insert date 30 days after date of publication in the FEDERAL REGISTER]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R04-OAR-2021-0428 at <https://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment

and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www2.epa.gov/dockets/commenting-epa-dockets>.

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I. Background

A. The 2010 SO₂ NAAQS

Under section 109 of the Clean Air Act (CAA or “Act”), EPA has established primary and secondary NAAQS for certain pervasive air pollutants (referred to as “criteria pollutants”) and conducts periodic reviews of the NAAQS to determine whether they should be revised or whether new NAAQS should be established. The primary NAAQS represent ambient air quality standards the attainment and maintenance of which EPA has determined, including a margin of safety, are requisite to protect the public health. The secondary NAAQS represent ambient air quality standards the attainment and maintenance of which EPA has determined are requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.

Under the CAA, EPA must establish a NAAQS for SO₂, which is primarily released to the atmosphere through the burning of fossil fuels by power plants and other industrial facilities. Short-term exposure to SO₂ can damage the human respiratory system and increase breathing difficulties. Small children and people with respiratory conditions, such as asthma, are more sensitive to the effects of SO₂. Sulfur oxides at high concentrations can also react with compounds to form small particulates that can penetrate deeply into the lungs and cause health problems.

EPA first established primary SO₂ standards in 1971 at 0.14 parts per million (ppm) over a 24-hour averaging period and 0.3 ppm over an annual averaging period.¹ In June 2010, EPA revised the primary NAAQS for SO₂ to provide increased protection of public health, providing for revocation of the 1971 primary annual and 24-hour SO₂ standards for most areas of the country following area designations under the new NAAQS.² The 2010 NAAQS is 75 parts per billion (ppb) (equivalent to 0.075 ppm) over a 1-hour averaging period.³ A violation of the 2010

¹ See 36 FR 8186 (April 30, 1971).

² 40 CFR 50.4(e).

³ See 75 FR 35520 (June 22, 2010).

1-hour SO₂ NAAQS occurs when the annual 99th percentile of ambient daily maximum 1-hour average SO₂ concentrations, averaged over a 3-year period, exceeds 75 ppb.⁴

B. Designations, Classifications, and Attainment Dates for the 2010 SO₂ NAAQS

Following promulgation of any new or revised NAAQS, EPA is required by CAA section 107(d) to designate areas throughout the nation as attaining or not attaining the NAAQS. On August 5, 2013, EPA finalized its first round (round 1) of designations for the 2010 primary SO₂ NAAQS.⁵ Specifically, in the 2013 action, EPA designated 29 areas in 16 states as nonattainment for the 2010 SO₂ NAAQS, including a portion of Sullivan County (hereinafter referred to as “the Sullivan County Area” or Area) in Tennessee. The Sullivan County Area lies within a 3-kilometer (km) radius circle centered around the B-253 powerhouse at the Eastman Chemical Company facility in Kingsport, Tennessee (Eastman), which encompasses an SO₂ monitor operating at the time of designation (Air Quality System (AQS) Site ID: 47-163-0007).⁶ EPA’s round 1 designations for the 2010 SO₂ NAAQS, including the Sullivan County Area, became effective on October 4, 2013. Pursuant to CAA section 192(a), the attainment date for the Area was no later than October 4, 2018, which is five years after the effective date of the final action designating each round 1 area as nonattainment for the 2010 SO₂ NAAQS.

Under CAA section 179(c) of the CAA, within six months of the attainment date, the EPA is required to make a determination, based on the area’s air quality as of the attainment date, whether an area attained by that date. If the EPA determines that an area failed to attain by the attainment date, EPA is required to publish that determination in the *Federal Register*. CAA section 179(c)(2). On June 25, 2021, EPA entered into a consent decree with the Center for Biological Diversity in the U.S. District Court for the Northern District of California.⁷ The consent decree requires EPA to finalize, by January 31, 2022, or March 31, 2022, depending on

⁴ 40 CFR 50.17.

⁵ See 78 FR 47191 (August 5, 2013).

⁶ For exact descriptions of the Sullivan County Area, refer to 40 CFR 81.343.

⁷ See Center for Biological Diversity et al v. EPA; Case No. 3:20-cv-05436-EMC in the docket for this proposed action.

the nonattainment area, a determination whether certain round 1 SO₂ nonattainment areas (including the Sullivan County Area) attained the 1-hour SO₂ standard by the October 4, 2018 attainment date. For the Sullivan County Area, the consent decree deadline is March 31, 2022.

II. Proposed Determination and Consequences

A. Applicable Statutory and Regulatory Provisions

Section 179(c)(1) of the CAA requires EPA to determine whether a nonattainment area attained an applicable standard by the applicable attainment date based on the area's air quality as of the applicable attainment date. A determination of whether an area's air quality meets applicable standards is generally based upon the most recent three years of complete, quality-assured data gathered at established state and local air monitoring stations (SLAMS) in a nonattainment area and entered into the EPA's Air Quality System (AQS) database.⁸ Data from ambient air monitors operated by state and local agencies in compliance with EPA's monitoring requirements must be submitted to AQS.⁹ Monitoring agencies annually certify that these data are accurate to the best of their knowledge.¹⁰ EPA uses the certified air monitoring data to calculate design values that are used to determine the area's air quality status in accordance with 40 CFR part 50 Appendix T (for SO₂).

Specifically, under EPA regulations in 40 CFR 50.17 and in accordance with 40 CFR part 50 Appendix T, the 2010 1-hour annual SO₂ standard is met when the design value is less than or equal to 75 ppb. Design values are calculated by computing the three-year average of the annual 99th percentile daily maximum 1-hour average concentrations.¹¹ When calculating 1-hour primary standard design values, the calculated design values are rounded to the nearest whole number (i.e., 1 ppb) by convention. An SO₂ 1-hour primary standard design value is valid if it encompasses three consecutive calendar years of complete data. A year is considered complete

⁸ AQS is EPA's repository of ambient air quality data.

⁹ 40 CFR 58.16.

¹⁰ 40 CFR 58.15.

¹¹ As defined in 40 CFR part 50, Appendix T, section 1(c), daily maximum 1-hour values refer to the maximum 1-hour SO₂ concentration values measured from midnight to midnight that are used in the NAAQS computations.

when all four quarters are complete, and a quarter is complete when at least 75 percent of the sampling days are complete. A sampling day is considered complete if 75 percent of the hourly concentration values are reported; this includes data affected by exceptional events that have been approved for exclusion by the EPA Administrator.¹²

EPA notes that when determining the attainment status of SO₂ nonattainment areas, including when making determinations of attainment by the attainment date, in addition to ambient monitoring data, the Agency may also consider air quality dispersion modeling and/or a demonstration that the control strategy in the SIP has been fully implemented.¹³ With regard to the use of monitoring data for such determinations, EPA's 2014 Nonattainment SO₂ Guidance¹⁴ specifically notes that "[i]f the EPA determines that the air quality monitors located in the affected area are located in the area of maximum concentration, the EPA may be able to use the data from these monitors to make the determination of attainment without the use of air quality modeling data."¹⁵ The modeling analysis of whether monitors are located in the area of maximum concentration is necessary where EPA is making a determination that an area attained by its attainment date based solely on that monitoring information. In the case of the Sullivan County Area, the SLAMS monitors did not start collecting data until the middle of 2016; therefore, a valid 2015-2017 design value based on three consecutive calendar years cannot be calculated.¹⁶ EPA's proposed determination that the area did not attain by its attainment date is, therefore, based on a technical analysis of the weight of available evidence — including monitoring data and emissions data from the relevant time period, as described in section II.C and II.D of this notice. As noted, the determination of whether the monitors are located in the

¹² See 40 CFR part 50, Appendix T, sections 1(c), 3(b), 4(c), and 5(a).

¹³ For the Sullivan County Area, EPA has not yet approved an attainment demonstration with accompanying emission limits into the SIP. Thus, EPA cannot analyze compliance with an approved SIP control strategy.

¹⁴ EPA, Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions (April 2014) ("2014 SO₂ Guidance"), p.49, available at: https://www.epa.gov/sites/default/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf.

¹⁵ Id., p.50.

¹⁶ The current SO₂ monitoring network in the Area, which is comprised of four SLAMS monitors and represented in Tennessee's ambient air monitoring network plan, is designed to measure SO₂ air quality in the areas of expected maximum 1-hour SO₂ concentration.

area of maximum concentration is not needed in this situation, because a demonstration is not being made that the Area has attained the 2010 SO₂ NAAQS by the October 4, 2018, attainment date.

B. Monitoring Network Considerations

Section 110(a)(2)(B)(i) of the CAA requires states to establish and operate air monitoring networks to compile data on ambient air quality for all criteria pollutants. EPA's monitoring requirements are specified by regulation in 40 CFR part 58. These requirements are applicable to the state, and where delegated, to local air monitoring agencies that operate criteria pollutant monitors. The regulations in 40 CFR part 58 establish specific requirements for operating air quality surveillance networks to measure ambient concentrations of SO₂, including requirements for measurement methods, network design, quality assurance procedures, and the minimum number of monitoring sites designated as SLAMS. In sections 4.4 and 4.5 of Appendix D to 40 CFR part 58, EPA specifies minimum SLAMS monitoring requirements for SO₂. SLAMS produce data that are eligible for comparison with the NAAQS, and therefore, the monitor must be an approved federal reference method (FRM), federal equivalent method (FEM), or approved regional method (ARM) monitor. Appendix A to 40 CFR part 58 specifies quality assurance requirements for SLAMS monitors. The minimum number of required SO₂ SLAMS is described in sections 4.4.2 and 4.4.3 of Appendix D to 40 CFR part 58. According to section 4.4.2, the minimum number of required SO₂ monitoring sites is determined by the population weighted emissions index for each state's core based statistical area. Section 4.4.3 describes additional monitors that may be required by an EPA regional administrator.

Under 40 CFR 58.10, states are required to submit annual monitoring network plans (AMNP) for ambient air monitoring networks for approval by EPA. Each AMNP discusses the status of the air monitoring network as required under 40 CFR 58.10 and addresses the operation and maintenance of the air monitoring network, including any proposed modifications to the network. EPA reviews these AMNPs for compliance with the applicable monitoring network

design requirements in 40 CFR part 58.¹⁷ EPA also conducts regular technical systems audits (TSAs) during which EPA reviews and inspects ambient air monitoring programs to assess compliance with applicable regulations concerning the collection, analysis, validation, and reporting of ambient air quality data.¹⁸

For the Sullivan County Area, the Tennessee Department of Environment and Conservation (TDEC) is responsible for assuring that the Area meets air quality monitoring requirements. TDEC submitted an annual monitoring network plan to EPA that describes the various monitoring sites operated by TDEC.¹⁹ EPA approved TDEC's most recent AMNP on September 30, 2021, and concluded that the air agency's ambient air monitoring network meets or exceeds the requirements for the minimum number of SLAMS for all criteria pollutants, including SO₂, in the Sullivan County Area.²⁰ For additional information related to Sullivan County Area's SO₂ monitoring network, including EPA's TSAs and the State's response and air monitoring data, please refer to EPA's technical support document (TSD) located in the docket for this proposed action (Sullivan County TSD).²¹

C. Sullivan County SO₂ Monitoring Network

During the round 1 SO₂ designations in 2013, Eastman operated an industrial SO₂ monitor near the facility at the Ross N. Robinson site (AQS ID: 47-163-0007). From 2010 to 2012, Tennessee certified to EPA that all industry-operated monitoring data in Tennessee, including the Eastman SO₂ monitor, met EPA regulatory requirements, including quality assurance requirements. EPA used this data as the basis for an SO₂ nonattainment determination

¹⁷ See, e.g., letter dated September 14, 2020, from Caroline Y. Freeman, Director, Air and Radiation Division, EPA Region IV, to Michelle Owenby, Director, Division of Air Pollution Control, TDEC. Copies of EPA letters responding to Tennessee's AMNPs for 2016-2020 are included in the docket for this proposed action.

¹⁸ See 40 CFR part 58, appendix A, section 2.5.

¹⁹ See, e.g., Tennessee's current AMNP "2021 Tennessee Annual Monitoring Network Plan." EPA Region 4 approved the 2021 AMNP on September 30, 2021. Copies of Tennessee's AMNPs for 2015-2021 are included in the docket for this proposed action.

²⁰ See letter dated September 30, 2021, from Caroline Y. Freeman, Director, Air and Radiation Division, EPA Region IV, to Michelle Owenby, Director, Division of Air Pollution Control, TDEC in the docket for this proposed action.

²¹ See Technical Support Document Finding of Failure to Attain the 2010 1-Hour SO₂ NAAQS For the Sullivan County, Tennessee Nonattainment Area in the docket for this proposed action.

on August 13, 2013, based on a 2009-2011 design value of 196 ppb at the Ross N. Robinson industrial monitor.

In September 2013 (and subsequently in 2016), after an EPA TSA, EPA found that Tennessee was unable to provide the required quality assurance records and documentation for the industry-operated air monitoring sites in Sullivan County. EPA determined that the Eastman industrial monitors were not meeting the quality assurance requirements in 40 CFR part 58 Appendix A and therefore not comparable to the NAAQS. As a result of EPA's TSA findings, TDEC assigned a NAAQS exclusion flag to the Ross N. Robinson industrial monitor's data in AQS beginning in September 2013 to indicate the data did not meet regulatory requirements. For the 2015-2017 period, no valid SO₂ monitoring data were collected in the Area from January 1, 2015, to July 20, 2016. Consequently, the Area did not have a valid SO₂ design value for the 2015-2017 period. *See Sullivan County TSD* for more details on EPA's TSAs.

To characterize SO₂ concentrations in the Sullivan County Area, Tennessee began operating a SLAMS SO₂ monitor (AQS ID: 47-163-6001) on July 21, 2016, adjacent to the Ross N. Robinson industrial monitoring site under an EPA-approved quality assurance project plan, and in accordance with EPA's regulatory requirements at Appendix D to 40 CFR part 58. The Ross N. Robinson SLAMS site is located adjacent to Eastman's industrial monitor of the same name on Wilburn Drive in Kingsport. On September 1, 2016, TDEC also installed a second monitor (AQS ID: 47-163-6002) at the Skyland Drive industrial monitoring site to further characterize high elevation SO₂ concentrations in the complex terrain around the Sullivan County Area. This monitor was sited in accordance with the normalized air modeling conducted by Tennessee in accordance with 40 CFR part 58 and EPA's SO₂ Monitoring Technical Assistance Document (TAD).²² The Skyland Drive SLAMS monitor site is located with Eastman's industrial SO₂ monitor of the same name on Skyland Drive at Bagwell St. in

²² *See* SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document (TADs), Draft February 2016 in the docket for this proposed action.

Kingsport. The primary monitors²³ at each of these sites are FEM monitors. Valid hourly SO₂ data for the Area became available for the remainder of the design value period (i.e., from July 21, 2016, to December 31, 2017) once the Ross N. Robinson SLAMS site started operating. These monitoring data have been reported to AQS and certified by TDEC. Eastman stopped reporting data to AQS in 2016 for their industrial monitors and ceased operating these monitors in 2019. During the 2015-2017 design value period, the TDEC SLAMS monitors did not collect data in 2015 or the first half of 2016. Therefore, a valid 2015-2017 design value cannot be calculated for the nonattainment area.

In 2017, Tennessee committed to expanding its existing SO₂ ambient air monitoring network within the nonattainment area.²⁴ In 2018, EPA approved the portion of TDEC's AMNP that added two SLAMS monitors within the Sullivan County Area to characterize the expected areas of maximum 1-hour SO₂ concentrations near the Eastman facility.²⁵ TDEC subsequently began operating the two additional SLAMS sites at Happy Hill (AQS ID: 47-163-6004) in October 2018 and Andrew Johnson Elementary School (AQS ID: 47-163-6003) in January 2019 to characterize the areas of expected maximum 1-hour SO₂ concentrations around the facility. These monitors were sited in accordance with the normalized air modeling conducted by Tennessee in accordance with 40 CFR part 58 and EPA's SO₂ TAD. EPA approved the SO₂ portion of TDEC's AMNP in 2016, 2018, 2019, and 2020.²⁶

D. SO₂ Data Considerations and Proposed Determination

²³ A primary monitor is a term defined in 40 CFR part 58 that means the monitor identified by the monitoring organization that provides concentration data used for comparison to the NAAQS. For any specific site, only one monitor for each pollutant can be designated in AQS as primary monitor for a given period of time. The primary monitor identifies the default data source for creating a combined site record for purposes of NAAQS comparisons.

²⁴ In 2017, EPA commented on TDEC's SO₂ draft attainment SIP for the Sullivan County Area and recommended that the State expand the monitoring network within the nonattainment area to verify that the SO₂ emission reduction measures proposed in the attainment SIP at the time would ensure attainment of the 1-hour standard. *See* EPA 2017 comment letter found in the docket for this proposed action. Tennessee submitted an attainment SIP for the Sullivan County Area on May 11, 2017. EPA proposed approval of the attainment SIP on June 29, 2018 (83 FR 30609) but has not finalized approval as of this action.

²⁵ *See* letter dated July 24, 2018, from Beverly Banister, Director, Air, Pesticides and Toxic Management Division, EPA Region IV, to Michelle Owenby, Director, Division of Air Pollution Control, TDEC included in the docket for this proposed action.

²⁶ The most recent TDEC AMNP, submitted and approved in 2020, includes four SO₂ SLAMS in the nonattainment area which will provide NAAQS-comparable monitoring data moving forward.

As discussed in section II.C above, air monitoring data in the area from January 1, 2015, to July 20, 2016, did not meet the quality assurance requirements in 40 CFR part 58 Appendix A and therefore are not comparable to the NAAQS. Therefore, a valid 2015-2017 design value could not be determined for the nonattainment area. In lieu of a 2015-2017, 3-year design value, EPA has developed a weight of evidence assessment based on available air quality monitoring data and source-specific SO₂ emissions in the Area from January 2015 through December 2017 to support the determination that the Sullivan County Area did not attain the 1-hour SO₂ standard by the October 4, 2018, attainment date based on the area's air quality as of the attainment date. This section summarizes EPA's weight of evidence approach and data considerations for the nonattainment area. More detailed discussions on the air monitoring and SO₂ emission data are provided in EPA's Sullivan County TSD located in the docket for this proposed action.

1. Sullivan County SO₂ Monitoring Data

As discussed in section I.B above, the applicable attainment date for the Sullivan County Area, is October 4, 2018. In accordance with Appendix T to 40 CFR part 50, determinations of SO₂ NAAQS compliance are based on three consecutive calendar years of data. To determine the air quality as of the attainment date in the nonattainment area, EPA reviewed the available data collected during the three calendar years immediately preceding the attainment date for the Sullivan County Area (i.e., January 1, 2015, through December 31, 2017), as well as SO₂ emissions data at Eastman.

As discussed above, no NAAQS-comparable SO₂ monitoring data is available for the Area for January 1, 2015, to July 20, 2016. The available SLAMS SO₂ data for the Sullivan County Area from July 21, 2016, through December 31, 2017, have been certified by TDEC. EPA has also evaluated the completeness of these data in accordance with the requirements of 40 CFR part 50, Appendix T. The data collected by TDEC in the three calendar years preceding the attainment date meet the quarterly completeness criteria for only 6 out of 12 quarters at the Ross N. Robinson SO₂ monitor since the monitor began operation on July 21, 2016, and 5 out of 12

quarters at the Skyland Drive SO₂ monitor since the monitor began operation on September 1, 2016. The available annual 99th percentile daily maximum 1-hour average SO₂ data at each monitoring site within the Sullivan County Area for the 2015-2017 period are presented in Table 1.

Table 1 – 2015-2017 SO₂ Monitoring Data for the Sullivan County Area

Site (AQS ID)	Annual 99 th Percentile Daily Maximum 1-hour Average (ppb)			Design Value Valid?
	2015	2016	2017	
Ross N. Robinson (47-163-6001)	N/A ^a	152 ^b	92	No
Skyland Dr (47-163-6002)	N/A ^a	91 ^b	78	No
Notes: ^a The SLAMS monitors did not collect data in 2015. ^b The Ross N. Robinson monitor had only two quarters of complete data in 2016 due to the monitor beginning operation on July 21, 2016. The Skyland Drive monitor had only one quarter of complete data in 2016 due to the monitor beginning operation on September 1, 2016. Source: EPA AQS Design Value Report, retrieved September 14, 2021.				

The data in Table 1 indicates that although the two sites in the Sullivan County Area did not have complete data in 2015 and 2016 to determine a 3-year design value, both monitors consistently measured 99th percentile daily maximum 1-hour SO₂ concentrations above the 75 ppb level of the 1-hour NAAQS in 2016 and 2017, after beginning operation in mid-2016. Both monitors have complete 2017 datasets.

For an area to attain the 2010 SO₂ NAAQS by the October 4, 2018, attainment date, the design value based upon monitored air quality data from 2015-2017 at each eligible monitoring sites must be equal to or less than 75 ppb for the 1-hour standard. Table 1 above shows that the annual 99th percentile daily maximum 1-hour average at each monitoring site exceeds 75 ppb in 2016 and 2017. *See also* Table 1 in the Sullivan County TSD.

2. Eastman SO₂ Emissions Data

As mentioned above, in round 1 SO₂ designations, EPA designated as nonattainment the portion of Sullivan County within a 3-km radius circle centered at Eastman's B-253 powerhouse, which at the time of designations encompassed the one monitor that was violating the 2010 1-hour SO₂ NAAQS based on 2009-2011 air quality data. Table 2 shows that the SO₂ emissions, expressed in tons per year (tpy), from Eastman account for more than 99 percent of the total SO₂ emissions in Sullivan County during the 2015-2017 period relevant for this proposed determination that the Area failed to attain the SO₂ NAAQS by the applicable attainment date. Prior to the Sullivan County Area being designated as nonattainment for the 2010 1-hour SO₂ NAAQS in 2013, Eastman operated 15 coal-fired boilers at their facility to generate steam and electricity. As discussed in more detail in the Sullivan County TSD for this proposed action, Eastman's annual SO₂ emissions have been steadily decreasing since 2013 due primarily to the changes in operations of the coal-fired boilers.

Table 2 – 2015-2017 SO₂ Emission Data for the Sullivan County SO₂ Nonattainment Area

Calendar Year	Total Sullivan County SO ₂ Emissions from All Sources (tpy)	Eastman SO ₂ Emissions (tpy)
2015	17,980	17,978
2016	14,325	14,324
2017	10,792	10,746

As shown in Table 2, the total annual SO₂ emissions from Eastman decreased over 7,000 tpy from 17,978 tpy in 2015 to 10,746 tpy in 2017. During 2015-2017, the annual emissions were highest in 2015, when no air monitoring data is available, and emissions decreased significantly in 2016 and 2017. The decrease was primarily because of the conversion of two large coal-fired boilers, Boilers 27 and 28 in the B-253 powerhouse, from burning coal to natural gas fuel that was completed in 2016. These two boiler conversions were part of a larger SO₂

emissions control project beginning in 2014 and ending in 2018, which converted all five boilers in the B-253 powerhouse from burning coal to burn natural gas fuel. These conversions had a significant impact on SO₂ emissions: emissions from the B-253 powerhouse decreased from 14,171 tpy in 2012 to less than 10 tpy in 2019.²⁷ The total annual SO₂ emissions from the entire Eastman facility decreased from 21,246 tpy in 2012 to 4,510 tpy in 2019. *See* Sullivan County TSD for complete details of the boiler conversions and resulting emissions changes.

It is important to also consider trends in hourly SO₂ emissions since the 2010 SO₂ NAAQS is a short-term standard that is evaluated using hourly measurements of ambient SO₂ concentrations. EPA's evaluation of Eastman's hourly emissions data found that their emissions were over 33 percent higher during the period from January 1, 2015, to June 30, 2016, (when no valid ambient monitoring data was available), than the July 1, 2016, through December 31, 2017, period (when valid ambient monitoring data show exceedances of the NAAQS).²⁸

3. Weight of Evidence Analysis Conclusions and Proposed Determination

To determine the air quality in the Sullivan County Area as of the applicable attainment date, EPA reviewed the available ambient monitoring data and annual and hourly SO₂ emissions data at Eastman from January 1, 2015, to December 31, 2017. As shown in Table 1, the available SO₂ ambient monitoring data in the Sullivan County Area indicates that the 99th percentile maximum daily 1-hour SO₂ concentration in both 2016 and 2017 exceeded the 1-hour SO₂ NAAQS level of 75 ppb. The primary SO₂ emissions sources in the nonattainment area are the coal-fired boilers at Eastman. Both the annual SO₂ emissions and the hourly SO₂ emissions from the Eastman boilers were significantly higher from January 1, 2015, to June 30, 2016, when air monitoring data are not available, than from July 1, 2016, through December 31, 2017, when air monitoring data are available. Ambient SO₂ concentrations are very source-oriented, and in this case, the Eastman boilers make up virtually the entire emissions inventory for the Area.

²⁷ The conversion of the B-253 boilers from burning coal to natural gas was completed in October 2018. Thus, the SO₂ emissions from the B-253 powerhouse dropped significantly to 10 tpy in 2019.

²⁸ See Figure 5 and Table 3 of the Sullivan County TSD in the docket for this proposed action.

Considering that the ambient measured concentrations exceeded the level of the NAAQS in 2016 and 2017, when emissions from the primary source of SO₂ were *lower* than they were in 2015, EPA believes it is reasonable to expect that the 99th percentile maximum daily 1-hour SO₂ concentration in 2015 likely also exceeded the level of 75 ppb. Consequently, the three-year average of: the 99th percentile value for 2015 (likely exceeded the level of the NAAQS), 2016 (exceeded the level of the NAAQS), and 2017 (exceeded the level of the NAAQS) almost certainly would have resulted in a design value that violated the NAAQS. EPA therefore proposes to find that this analysis of available ambient concentration data and SO₂ emissions data demonstrates by a weight of evidence that the Sullivan County Area failed to attain the 1-hour SO₂ NAAQS by the required attainment date of October 4, 2018.

E. Consequences for SO₂ Nonattainment Areas Failing to Attain Standards by Attainment Dates

The consequences for SO₂ nonattainment areas for failing to attain the standard by the applicable attainment date are set forth in CAA section 179(d). Under section 179(d), a state must submit a SIP revision for the area meeting the requirements of CAA sections 110 and 172, the latter of which requires, among other elements, a demonstration of attainment and reasonable further progress, and contingency measures. In addition, under CAA section 179(d)(2), the SIP revision must include such additional measures as EPA may reasonably prescribe, including all measures that can be feasibly implemented in the area in light of technological achievability, costs, and any non-air quality and other air quality-related health and environmental impacts.

In this case, the dominant source of SO₂ emissions in the Sullivan County Area is the Eastman facility. EPA expects that information concerning potential additional control measures would be collected by TDEC as part of its development of the SIP revision to address the requirements that would be triggered by a final finding of failure to attain for the Area. The State is required to submit the SIP revision within one year after EPA publishes a final action in the *Federal Register* determining that the nonattainment area failed to attain the applicable SO₂

standard by the applicable attainment date. In addition to triggering requirements for a new SIP submittal, a final determination that a nonattainment area failed to attain the NAAQS by the applicable attainment date would trigger the implementation of contingency measures adopted into the SIP under 172(c)(9).

Under CAA sections 179(d)(3) and 172(a)(2), the new attainment date for each nonattainment area is the date by which attainment can be achieved as expeditiously as practicable, but no later than five years after EPA publishes a final action in the *Federal Register* determining that the nonattainment area failed to attain the applicable SO₂ standard by the applicable attainment date.²⁹

III. Proposed Action and Request for Public Comment

Under CAA section 179(c)(1), EPA proposes to determine that the Sullivan County Area failed to attain the 2010 1-hour SO₂ standard by the applicable attainment date of October 4, 2018. This determination is based upon a weight of evidence analysis of available quality assured and certified SO₂ monitored air quality data and emissions data from January 2015 through December 2017 in lieu of a valid 2015-2017 design value. If finalized as proposed, the State of Tennessee would be required under CAA section 179(d) to submit a revision to the SIP for the Sullivan County Area. The required SIP revision for the area must, among other elements, demonstrate expeditious attainment of the standards within the period prescribed by CAA section 179(d). If finalized as proposed, the SIP revision required under CAA section 179(d) would be due for submittal to EPA no later than one year after the publication date of the final action.

EPA is soliciting public comments on the issues discussed in this notice.³⁰ The Agency will accept comments from the public on this proposal for the next 30 days. The deadline and

²⁹ Pursuant to CAA sections 172(a)(2)(D) and 192(a), the attainment date extension provision under section 172(a)(2)(A) does not apply to the SO₂ NAAQS.

³⁰ The scope of this proposed action is limited to whether the Sullivan County Area attained the 1-hour SO₂ standard by the applicable October 4, 2018, attainment date. Therefore, EPA is not soliciting further comment on the approvability of the State's 2017 SO₂ attainment SIP that the Agency previously proposed to approve on June 29,

instruction on how to submit comment can be found in the **DATES** and **ADDRESSES** sections of this notice. EPA will consider these comments before taking final action.

IV. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at <https://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and therefore was not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

This action does not impose an information collection burden under the provisions of the PRA because it does not contain any information collection activities.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This proposed action, if finalized, would require the state to adopt and submit a SIP revision to satisfy CAA requirements and would not itself directly regulate any small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate of \$100 million or more, as described in UMRA (2 U.S.C. 1531-1538) and does not significantly or uniquely affect small governments. This action itself imposes no enforceable duty on any state, local, or tribal governments, or the private sector. This action proposes to determine that the Sullivan County Area failed to attain the NAAQS by the applicable attainment date. If finalized, this determination would trigger

2018. See 83 FR 30609. The comment period for that proposal closed on July 30, 2018. EPA has not yet taken final action on that SIP submission.

existing statutory timeframes for the State to submit SIP revisions. Such a determination in and of itself does not impose any federal intergovernmental mandate.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. The proposed finding of failure to attain SO₂ NAAQS does not apply to tribal areas, and the proposed rule would not impose a burden on Indian reservation lands or other areas where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. Thus, this proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175.

G. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2-202 of the Executive Order. This proposed action is not subject to Executive Order 13045 because the effect of this proposed action, if finalized, would be to trigger additional planning requirements under the CAA. This proposed action does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211, Actions That Significantly Affect Energy Supply, Distribution, or Use

This proposed rule is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

The effect of this proposed action, if finalized, would be to trigger additional planning requirements under the CAA.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by Reference, Intergovernmental relations, Lead, Pollution, Sulfur dioxide.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: December 29, 2021.

Daniel Blackman,
Regional Administrator,
Region 4.

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